



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,212	02/13/2002	Kojiro Hamabe	Q68508	4798

7590 12/15/2004
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

GANTT, ALAN T

ART UNIT	PAPER NUMBER
----------	--------------

2684

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,212

Applicant(s)

HAMABE, KOJIRO

Examiner

Alan T. Gantt

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 11, 12, 14, 21, 22, 24, 27, 28 and 30 is/are rejected.
- 7) ☒ Claim(s) 3, 5-10, 13, 15-20, 23, 25, 26, 29 and 31-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date see attached
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 11-14, 27-29, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanemoto et al., in view of Chuah et al.

Regarding claim 1, Kanemoto discloses a communication terminal that reduces the transmission power only when there is received transmission power control information for a reduction in transmission power from all the base stations under communication and does not reduce the above power in other cases. Kanemoto, thus, includes a cellular system comprising a plurality of base stations and a plurality of mobile stations existing in cells controlled by each of said base stations and meets the following limitations:

means for setting a dedicated channel between itself and said mobile station to send a downlink signal including downlink control information and receive an uplink signal including uplink control information, (paragraphs 0024 and 0025)

means for setting a dedicated channel between itself and a connection base station with one or more of said base stations to receive said downlink signal and send said uplink signal, (paragraphs 0017-0019)

Kanemoto is silent regarding sending a first signal to the mobile station using a shared channel.

Chuah discloses a dynamic code allocation for downlink shared channels (DSCH) in a shared set for high data rate users on a frame by frame basis. DSCH only carries data traffic from high-rate users. A user is assigned a temporary code for the DSCH. The assigned code is on a frame-by-frame basis. A user therefore uses the assigned code for at least a full 10 ms (milli-second) frame. Each user who will share the DSCH is assigned a dedicated downlink traffic channel. Thus, Chuah meets the limitation:

said base station comprising means for sending a first signal including information to said mobile station using a shared channel; (col. 1, line 65 to col. 2, line 38) and

said mobile station comprising means for receiving said first signal; (col. 1, line 65 to col. 2, line 38) and

wherein said system comprises reliability increasing means for increasing reliability of control information included in at least one of said downlink signal and said uplink signal sent /received by a predetermined mobile station in the case where said connection base station sends said first signal to said predetermined mobile station, compared to the case where said sending is not carried out. (col. 1, lines 57-64 - the reliability increase occurs since the base station lets the mobile know its code just prior to use and use is made of the code only on the adjacent frame, making for a faster and more certain operation and achieves the highest possible multiplexing gains, i.e., increase reliability.)

Kanemoto and Chuah are combinable because they share a common endeavor, namely, control channel communications between base stations and mobile stations. At the time of the applicant's invention it would have been obvious to modify Kanemoto to include a means for making using of the downlink shared channel as taught by Chuah so that a separate functionality can be made of the control channel that might apply to a plurality of mobile stations.

Regarding claim 2, Kanemoto meets the limitation - The cellular system according to claim 1, comprising means for controlling transmission of said first signal using said uplink control information and said downlink control information. (paragraphs 0017-0019, 0024 and 0025)

Regarding claim 4, Kanemoto meets the limitations - The cellular system according to claim 1,

wherein each of said connection base stations comprises means for determining the reception SIR of said uplink signal sent from said predetermined mobile station, and controlling transmission power of said uplink signal sent from said predetermined mobile station, based on said reception SIR and a predetermined desired value, (Figure 4, refs. 205 and 206)

and

said reliability increasing means increases said reliability by changing said desired value. (paragraphs 0026-0032)

Regarding 11, Kanemoto discloses a communication terminal that reduces the transmission power only when there is received transmission power control information for a reduction in transmission power from all the base stations under communication and does not reduce the above power in other cases. Kanemoto, thus, includes a common control method comprising a plurality of base stations and a plurality of mobile stations existing in cells controlled by each of said base stations and meets the limitations:

a step of setting a dedicated channel between itself and said mobile station to send a downlink signal including downlink control information and receive an uplink signal including uplink control information, (paragraphs 0024 and 0025)

a step of setting a dedicated channel between itself and a connection base station with one or more of said base stations to receive said downlink signal and send said uplink signal, (paragraphs 0017-0019)

Kanemoto is silent regarding sending a first signal to the mobile station using a shared channel.

Chuah discloses a dynamic code allocation for downlink shared channels codes in a shared set for high data rate users on a frame by frame basis. DSCH only carries data traffic from high-rate users. A user is assigned a temporary code for the DSCH. The assigned code is on a frame-by-frame basis. A user therefore uses the assigned code for at least a full 10 ms (milli-second) frame. Each user who will share the DSCH is assigned a dedicated downlink traffic channel. Thus, Chuah meets the limitation:

said base station comprising a step of sending a first signal including information to said mobile station using a shared channel; (col. 1, line 65 to col. 2, line 38) and

said mobile station comprising a step of receiving said first signal; (col. 1, line 65 to col. 2, line 38)

wherein said method comprises a reliability increasing step of increasing reliability of control information included in at least one of said downlink signal and said uplink signal sent/received by a predetermined mobile station in the case where said connection base station sends said first signal to said predetermined mobile station, compared to the case where said sending is not carried out. (col. 1, lines 57-64 - the reliability increase occurs since the base station lets the mobile know its code just prior to use and use is made of the code only on the adjacent frame, making for a faster and more certain operation and achieves the highest possible multiplexing gains, i.e., increase reliability.)

Kanemoto and Chuah are combinable because they share a common endeavor, namely, control channel communications between base stations and mobile stations. At the time of the applicant's invention it would have been obvious to modify Kanemoto to include a means for making using of the downlink shared channel as taught by Chuah so that a separate functionality can be made of the control channel that might apply to a plurality of mobile stations.

Regarding claim 12, Kanemoto meets the limitation - the communication control method according to claim 11, comprising means for controlling transmission of said first signal using said

Art Unit: 2684

uplink control information and said downlink control information. (paragraphs 0017-0019, 0024 and 0025)

Regarding claim 13, Kanemoto meets the limitations - The communication control method according to claim 11,

wherein said base station comprises a step of sending a common pilot signal,

said predetermined mobile station comprises a step of receiving said common pilot signal sent from each of said connection base stations, and communicating transmission control information based on power for reception thereof to said connection base stations, and

each of said connection base stations comprises a step of determining based on said communication whether or not said first signal is sent.

Regarding claim 14, Kanemoto meets the limitations – the communication control method according to claim 11,

wherein each of said connection base stations comprises means for determining the reception SIR of said uplink signal sent from said predetermined mobile station, and controlling transmission power of said uplink signal sent from said predetermined mobile station, based on said reception SIR and a predetermined desired value, (Figure 4, refs. 205 and 206)

and

said reliability increasing means increases said reliability by changing said desired value. (paragraphs 0026-0032)

Regarding claim 21, Kanemoto discloses a communication terminal that reduces the transmission power only when there is received transmission power control information for a reduction in transmission power from all the base stations under communication and does not reduce the above power in other cases. Kanemoto, thus, includes a base station of a cellular system comprising a plurality of base stations and a plurality of mobile stations existing in cells controlled by each of said base stations and meets the following limitations:

means for setting a dedicated channel between itself and said mobile station to send a downlink signal including downlink control information and receive an uplink signal including uplink control information, (paragraphs 0024 and 0025)

means for setting a dedicated channel between itself and a connection base station with one or more of said base stations to receive said downlink signal and send said uplink signal, (paragraphs 0017-0019)

Kanemoto is silent regarding sending a first signal to the mobile station using a shared channel.

Chuah discloses a dynamic code allocation for downlink shared channels codes in a shared set for high data rate users on a frame-by-frame basis. DSCH only carries data traffic from high-rate users. A user is assigned a temporary code for the DSCH. The assigned code is on a frame-by-frame basis. A user therefore uses the assigned code for at least a full 10 ms (milli-second) frame. Each user who will share the DSCH is assigned a dedicated downlink traffic channel. Thus, Chuah meets the limitation:

said base station comprising means for sending a first signal including information to said mobile station using a shared channel; (col. 1, line 65 to col. 2, line 38)

said mobile station comprising means for receiving said first signal; (col. 1, line 65 to col. 2, line 38) and

wherein said base station comprises reliability increasing means for increasing reliability of control information included in at least one of said downlink signal and said uplink signal sent/received by a predetermined mobile station in the case where said connection base station sends said first signal to said predetermined mobile station, compared to the case where said sending is not carried out. (col. 1, lines 57-64 - the reliability increase occurs since the base station lets the mobile know its code just prior to use and use is made of the code only on the adjacent frame, making for a faster and more certain operation and achieves the highest possible multiplexing gains, i.e., increase reliability.)

Kanemoto and Chuah are combinable because they share a common endeavor, namely, control channel communications between base stations and mobile stations. At the time of the applicant's invention it would have been obvious to modify Kanemoto to include a means for making using of the downlink shared channel as taught by Chuah so that a separate functionality can be made of the control channel that might apply to a plurality of mobile stations.

Regarding claim 22, Kanemoto meets the limitation - The base station according to claim 21, comprising means for controlling transmission of said first signal using said uplink control information and said downlink control information. (paragraphs 0017-0019, 0024 and 0025)

Regarding claim 23, Kanemoto meets the limitations - The base station according to claim 21, wherein said base station comprises means for sending a common pilot signal, said predetermined mobile station comprises means for receiving said common pilot signal sent from each of said connection base stations, and communicating transmission control information based on power for reception thereof to said connection base stations, and

each of said connection base stations comprises means for determining based on said communication whether or not said first signal is sent.

Regarding claim 24, Kanemoto meets the limitations - The base station according to claim 21,

wherein each of said connection base stations comprises means for determining the reception SIR of said uplink signal sent from said predetermined mobile station, and controlling transmission power of said uplink signal sent from said predetermined mobile station, based on said reception SIR and a predetermined desired value, (Figure 4, refs. 205 and 206)

and

said reliability increasing means increases said reliability by changing said desired value. (paragraphs 0026-0032)

Regarding claim 27, Kanemoto discloses a communication terminal that reduces the transmission power only when there is received transmission power control information for a reduction in transmission power from all the base stations under communication and does not reduce the above power in other cases. Kanemoto, thus, includes a mobile station of a cellular system comprising a plurality of base stations and a plurality of mobile stations existing in cells controlled by each of said base stations and meets the following limitations:

means for setting a dedicated channel between itself and said mobile station to send a downlink signal including downlink control information and receive an uplink signal including uplink control information, (paragraphs 0024 and 0025)

means for setting a dedicated channel between itself and a connection base station with one or more of said base stations to receive said downlink signal and send said uplink signal, (paragraphs 0017-0019)

Kanemoto is silent regarding sending a first signal to the mobile station using a shared channel.

Chuah discloses a dynamic code allocation for downlink shared channels codes in a shared set for high data rate users on a frame-by-frame basis. DSCH only carries data traffic from high-rate users. A user is assigned a temporary code for the DSCH. The assigned code is on a frame-by-frame basis. A user therefore uses the assigned code for at least a full 10 ms (milli-second) frame. Each user who will share the DSCH is assigned a dedicated downlink traffic channel. Thus, Chuah meets the limitation:

said base station comprising means for sending a first signal including information to said mobile station using a shared channel; (col. 1, line 65 to col. 2, line 38)

said mobile station comprising means for receiving said first signal; (col. 1, line 65 to col. 2, line 38) and

wherein said mobile station comprises reliability increasing means for increasing reliability of control information included in at least one of said downlink signal and said uplink signal sent/received by a predetermined mobile station in the case where said connection base station sends said first signal to said predetermined mobile station, compared to the case where said sending is not carried out. (col. 1, lines 57-64 - the reliability increase occurs since the base station lets the mobile know its code just prior to use and use is made of the code only on the adjacent frame, making for a faster and more certain operation and achieves the highest possible multiplexing gains, i.e., increase reliability.)

Kanemoto and Chuah are combinable because they share a common endeavor, namely, control channel communications between base stations and mobile stations. At the time of the applicant's invention it would have been obvious to modify Kanemoto to include a means for making using of the downlink shared channel as taught by Chuah so that a separate functionality can be made of the control channel that might apply to a plurality of mobile stations.

Art Unit: 2684

Regarding claim 28, Kanemoto meets the limitation - The mobile station according to claim 27, comprising means for controlling transmission of said first signal using said uplink control information and said downlink control information. (paragraphs 0017-0019, 0024 and 0025)

Regarding claim 30, Kanemoto meets the limitations - The mobile station according to claim 27, wherein said predetermined mobile station comprises means for synthesizing said downlink signals sent from each of said connecting base stations to determine the reception SIR, and controlling transmission power of said downlink signal sent from each connecting base station, based on said reception SIR and a predetermined SIR, (Figure 3, refs. 106 and 107)

and

said reliability increasing means increases said reliability by changing said desired value. (paragraphs 0026-0032)

Allowable Subject Matter

Claims 3, 5-10, 13, 15-20, 23, 25, 26, 29, 31-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Art Unit: 2684

Any inquiry concerning this communication from the examiner should be addressed to Alan Gantt at telephone number (703) 305-0077. The examiner can normally be reached between 9:30 AM and 6 PM within the Eastern Time Zone. The group FAX number is (703) 872-9306.

Any inquiry of a general nature or relating to this application should be directed to the group receptionist at telephone number (703) 305-4700.

Alan T. Gantt

Alan T. Gantt

November 14, 2004

Nick Corsaro

**NICK CORSARO
PRIMARY EXAMINER**